

Title (en)

CATALYST CONTAINING IRIIDIUM AND METHOD FOR A GAS-PHASE GUERBET REACTION

Title (de)

IRIDIUMHALTIGER KATALYSATOR UND VERFAHREN FÜR EINE GASPHASEN-GUERBET-REAKTION

Title (fr)

CATALYSEUR CONTENANT DE L'IRIDIUM ET PROCÉDÉ POUR UNE RÉACTION DE GUERBET EN PHASE GAZEUSE

Publication

EP 3030346 A1 20160615 (DE)

Application

EP 14749771 A 20140804

Priority

- EP 13179564 A 20130807
- EP 2014066727 W 20140804
- EP 14749771 A 20140804

Abstract (en)

[origin: WO2015018793A1] The invention relates to a catalyst and a method for condensing alcohols in the gas phase by means of a Guerbet reaction. The catalyst according to the invention is preferably used in a method for producing butanol by condensing ethanol. The catalyst comprises a carrier material composed of thermally partially or completely decomposed compounds similar to hydrotalcite, preferably hydrotalcite, in contact with iridium and/or ruthenium as a promoter, wherein the content of iridium and/or ruthenium is in the range of 0.05 to 4 wt%, preferably 0.1 to 3.5 wt %, and especially preferably 0.2 to 3.0 wt%, and the average size of the promoter particles is < 100 nm, preferably < 75 nm, further preferably < 50 nm, and especially preferably < 20 nm. The alkali content of the catalysts is very low, i.e., < 1 wt%, preferably < 0.5 wt%. In a preferred embodiment, the method is performed at a temperature in the range of 0 to 450 °C, a pressure in the range of 0.05 to 60 bar, and an alcohol content in the reactant flow in the range of 0.5 to 90 vol%.

IPC 8 full level

B01J 21/10 (2006.01); **B01J 23/00** (2006.01); **B01J 23/46** (2006.01); **B01J 35/00** (2024.01); **B01J 37/02** (2006.01); **C07C 29/34** (2006.01); **C07C 31/02** (2006.01); **C07C 31/12** (2006.01)

CPC (source: EP)

B01J 21/10 (2013.01); **B01J 23/462** (2013.01); **B01J 23/468** (2013.01); **B01J 35/45** (2024.01); **B01J 35/613** (2024.01); **B01J 37/0201** (2013.01); **C07C 29/34** (2013.01); **B01J 37/0063** (2013.01); **B01J 37/08** (2013.01)

C-Set (source: EP)

1. **C07C 29/34** + **C07C 31/12**
2. **C07C 29/34** + **C07C 31/125**

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

WO 2015018793 A1 20150212; EP 3030346 A1 20160615

DOCDB simple family (application)

EP 2014066727 W 20140804; EP 14749771 A 20140804